

Research on Application of the Game-based Student Response System in EFL Classrooms

Chiheng Xie

Beijing Foreign Studies University, Beijing, 100089

Abstract: Game-based Student Response Systems (GSRS) such as Kahoot!, Quizizz, and Padlet have become increasingly popular in English as a Foreign Language (EFL) classrooms. This current study critically reviews recent empirical research on the application of GSRS in EFL contexts, which focuses on their impact on learner engagement, motivation, and language learning outcomes. Recent studies suggest the advantages of applying GSRS tools in EFL classrooms include enhancing students' participation, fostering collaborating learning and improving short-term vocabulary retention. Nevertheless, challenges remain in terms of technical limitations in classrooms, over-gamification, and limited evidence for long-term language proficiency improvement.

Keywords: Game-based Student Response System; EFL classrooms; learner motivation

DOI: 10.12417/3029-2328.25.10.012

1. Introduction

The rapid development of education technology has led to the growing popularity of Game-based Student Response Systems (GSRS) tools, such as Kahoot, Quizizz, Mentimeter, etc. In English as a Second Language (ESL) and English as a Foreign Language (EFL) classrooms, teachers use these interactive tools in order to create active, and highly engaging learning atmosphere. Additionally, for the purpose of checking out students' learning performance in class, these classroom-based response system can demonstrate real time feedback, enabling teachers to monitor students' performance efficiently.

Since the 1970s, there has been a growing interest in using student response systems to enhance student participation and challenge standard instructional methods (Ranieri, Raffaghelli, & Bruni, 2018). Although it is widely used in classrooms, its actual effectiveness, limitations, and best practices for implementation remain debatable. In an attempt to shed light on these issues, this article aims to explore how Game-Based Student Response Systems (GSRS) function as pedagogical tools in English as a Foreign Language (EFL) instruction.

2. Theoretical Background

2.1 Game-Based Learning

Game-Based Learning (GBL) applies game mechanics — competition, feedback, and reward — to educational contexts to increase motivation and persistence. The underlying principle is that active engagement promotes deeper learning (Papastergiou, 2009). Within EFL classrooms, GBL encourages learners to participate voluntarily and to perceive tasks as challenges rather than obligations. GSRS adopt these same principles, transforming response activities into interactive experiences that sustain attention and enjoyment.

2.2 Constructivist Learning and Self-Determination Theory

Constructivist perspectives emphasize that knowledge is actively built through social interaction and problem-solving. GSRS support this by fostering hypothesis-testing and immediate feedback, allowing learners to adjust understanding dynamically (Ranieri et al., 2018). They also align with Vygotsky's notion of the Zone of Proximal Development, as scaffolded, game-mediated feedback enables students to perform beyond their current competence.

Self-Determination Theory explains motivation through autonomy, competence, and relatedness (Deci & Ryan, 1985). GSRS meet these needs by offering learners control over pace and challenge (autonomy), instant performance feedback (competence), and peer interaction (relatedness). Research shows that fulfilling these psychological needs enhances intrinsic motivation and sustained engagement (Deci & Ryan, 2000; Wang & Lieberoth, 2016). Thus, GSRS

serve not merely as entertainment but as motivational scaffolds fostering agency and community within EFL learning.

3.Current Situation of Applying GSRS in EFL Classrooms

This section demonstrates how GSRS function in EFL classrooms by analyzing evidence from recent studies. The discussion highlights four major areas of influence—students' perceptions, motivational and classroom dynamics, academic performance, and online learning applications—revealing how GSRS reshapes the learning experience.

3.1 Learner Perceptions of GSRS

Across multiple contexts, students generally express positive attitudes toward game-based response systems. Alawadhi and Abu-Ayyash (2021) found that using Kahoot! significantly increased learners' motivation and classroom participation, although the improvement did not extend to exam performance. Similarly, Chen (2022) reported that Chinese undergraduates viewed Kahoot! and Padlet as engaging and motivating tools but noted technical barriers such as unstable Internet access and device limitations. In Iran, Ebadi et al. (2023) observed that learners appreciated the enjoyment and competition brought by Kahoot! yet experienced occasional distraction and reduced comprehension due to rapid pacing and limited feedback. Muqail and Kasproicz (2023) demonstrated that vocabulary learning through Quizlet enhanced both recognition and recall among low-proficiency EFL learners, regardless of study interval length.

Taken together, these studies indicate that GSRS effectively foster engagement and short-term motivation, though their pedagogical impact depends on technical stability and feedback quality.

3.2 Student Motivation and Classroom Dynamics

Evidence also suggests that GSRS enhance motivational climates and participation patterns. Almusharraf (2023) showed that Kahoot! promoted sustained involvement and created a relaxed, collaborative online atmosphere, despite occasional time-limit or connectivity issues. Chen and Yeh (2019) compared student- and teacher-generated questions in Kahoot! sessions and found that self-generated tasks imposed higher cognitive demand and engagement.

Overall, GSRS appear to encourage healthy competition and interaction, transforming teacher-centered instruction into a more playful and participatory environment when properly managed.

3.3 Academic Learning Outcomes

Digital game-based student response systems have increasingly been adopted in EFL contexts as pedagogical tools for enhancing vocabulary acquisition, self-regulation, and reading performance. Rather than serving as mere supplementary aids, platforms such as Quizlet and Kahoot! have begun to reshape the cognitive and motivational architecture of classroom learning, providing both structure and autonomy in students' engagement with language input.

Mobile-assisted vocabulary learning illustrates this transformation vividly. When university learners engage with digital flashcards on mobile devices, they are exposed to repeated input while simultaneously developing the capacity for independent study. Evidence from Boroughani et al. (2023) demonstrates that Iranian university students using Quizlet to learn academic vocabulary not only achieved greater lexical gains but also exhibited stronger self-regulatory skills than peers who relied on traditional word lists. The authors argue that mobile-based digital flashcards enhance metacognitive awareness by encouraging learners to monitor their progress and regulate their study patterns autonomously. Such findings suggest that integrating mobile technology into vocabulary instruction can transform memorization from a mechanical process into a more strategic and self-directed form of learning.

Similarly, Bueno-Alastuey and Nemeth (2022) explored the comparative potential of Quizlet flashcards and podcasts for vocabulary development among adult learners. Although both tools produced comparable outcomes in receptive and productive vocabulary tasks, the majority of participants expressed a clear preference for Quizlet, citing

its visual interactivity, ease of use, and perceived effectiveness in retaining new words. Approximately 69% reported that the platform helped them learn and recall vocabulary more efficiently, whereas only half expressed similar satisfaction with podcasts. This preference underscores a key principle in digital pedagogy: multimodal and visually engaging interfaces tend to sustain attention and reinforce memory more effectively than unimodal input alone. Hence, gamified vocabulary platforms can leverage sensory diversity and user control to foster both enjoyment and cognitive durability in word learning.

Extending beyond lexical development, Mays et al. (2020) examined how the use of Kahoot!—an audience response system featuring student-generated questions—affects reading comprehension in EFL classrooms. Sixth-grade learners who created and answered comprehension questions via Kahoot! demonstrated a steady improvement in the quality of their questions and exhibited higher levels of collaboration and participation compared to peers using PowerPoint. The interactive and competitive features of Kahoot! were found to energize classroom dynamics and promote peer discussion. Nonetheless, the intervention did not result in significant improvements in reading comprehension scores, suggesting that gamification alone may not directly enhance deeper interpretive processes without explicit scaffolding. As the researchers note, Kahoot! appears more effective in stimulating engagement than in cultivating higher-order comprehension skills.

Taken together, these studies indicate that GSRS tools can meaningfully contribute to vocabulary retention, learner autonomy, and classroom collaboration, but their impact on complex cognitive outcomes such as reading comprehension remains limited. Integrating these systems thoughtfully—rather than using them as stand-alone replacements for conventional instruction—can help balance engagement with depth of learning. As Boroughani et al. (2023), Bueno-Alastuey and Nemeth (2022), and Mays et al. (2020) collectively suggest, GSRS platforms function best as catalysts that enhance motivation and participation while complementing more explicit and reflective forms of language instruction.

3.4 Online Learning Studies Using GSRS

Jiang et al. (2021) examined the role of GSRS in blended learning or online classrooms, with a focus on listening and language proficiency. The study used Quizlet for online tasks and traditional methods for offline learning. It involved 95 students, split into two groups: an experimental class (EC) and a control class (CC). The EC followed the blended approach, while the CC had regular face-to-face lessons. Over four months, the students' listening skills were tested before and after the study. The results showed that the EC made much more progress in listening skills compared to the CC. The EC students also showed more interest in learning, used better strategies, and were more engaged. They particularly liked the online activities, which made learning more interactive. The study suggests that blended learning can improve not just listening skills, but also overall learning strategies, making students more independent and effective learners.

4. Pedagogical Implications

Based on a review of current research on the use of game-based student response systems (GSRS) in EFL classrooms, it is evident that GSRS tools like Kahoot! are viewed as effective tools for increasing student engagement and motivation (Almusharraf, 2023). In line with this perspective, these tools are commonly incorporated into lessons where the main focus is on fostering student participation and creating a more interactive classroom environment. Additionally, studies suggest that the integration of GSRS in language learning environments helps to improve vocabulary retention and student collaboration (Chen, 2022; Mays et al., 2020). This section demonstrates pedagogical implications on using GSRS in English classrooms.

First, it is good if English teachers could use the tool such as Kahoot and Quizlet into their teaching plan to enhance student interaction and make learning much more interesting. Teachers can make use of the short quizzes, vocab review and even group activities to help students become more involved in the learning material, making sure not to take away from more traditional approaches and integrating these as supplemental tools

for students to have a more enjoyable and balanced approach to learning.

In addition, although GSRS tools facilitate learner engagement, teachers should consider possible challenges. Some challenges related to technical problem (e.g. poor internet connection and device limitations) may negatively impact the performance of such tools. Teachers must provide students with access to appropriate technology, as well as familiarity with such tools beforehand. Furthermore, teachers must be careful not to abuse gameification since using them too much may have diminishing returns on deep-learning in the long term. These gameification tools should only be among a diversified teaching method including the use of other active learning strategies.

Furthermore, educators can apply GSRS tools to foster group participation, whereby students can exchange ideas and critique each other, as well as think together regarding their learning. GSRS tools facilitate active learning, which involves stimulating students in participating fully, enabling the shift from instructor-centered to a student-centered classroom. Through creating questions with Kahoot!, students create their own questions while using it as a platform, and by using Padlet students work collaboratively. This facilitates the learning of critical thinking, teamwork and problem solving.

Finally, while research has demonstrated that the use of GSRS tools leads to better vocabulary learning, future research is yet to analyse the impacts of these tools over other language skills—for example, reading and/or writing skills. It is worth noting that teachers could try new activities to use the tools, namely reading comprehension exercises or productions to extend the scope of the tools' advantages. As teachers should evaluate the utility of these instruments and adjust the pedagogical strategies to enhance the implementation of these instruments, and support the wholesome language learning.

5. Conclusion

GSRS tools such as Kahoot present meaningful pedagogical opportunities to engage, motivate, and promote learning in students. When purposefully used by educators for integrating these tools into lessons, they can facilitate active learning, team learning, and fun to create a fun learning environment that encourages student's motivation. Educators need to consider their shortcomings, and use them to complement other teaching practices. They ought to be used as an add-on tool, that supplement, rather than replace, more conventional learning approaches in ways that benefit the lessons.

References:

- [1] Alawadhi A., Abu-Ayyash E.A.S. (2021) Students' Perceptions of Kahoot!: An Exploratory Mixed-Method Study in EFL Undergraduate Classrooms in the UAE [J]. *Education and Information Technologies*, 26, 3629–3658.
- [2] Bueno-Alastuey M.C., Nemeth K. (2022) Quizlet and Podcasts: Effects on Vocabulary Acquisition [J]. *Computer Assisted Language Learning*, 35(5), 763–781.
- [3] Chen Y.M. (2022) Understanding Foreign Language Learners' Perceptions of Teachers' Practice with Educational Technology with Specific Reference to Kahoot! and Padlet: A Case from China [J]. *Education and Information Technologies*, 27(7), 9501–9524.
- [4] Deci E.L., Ryan R.M. (1985) *Intrinsic Motivation and Self-Determination in Human Behavior* [M]. Berlin: Springer Science & Business Media.
- [5] Ebadi S., Rasouli R., Mohamadi M. (2023) Exploring EFL Learners' Perspectives on Using Kahoot as a Game-Based Student Response System [J]. *Interactive Learning Environments*, 31(4), 504–518.
- [6] Gee J.P. (2003) *What Video Games Have to Teach Us about Learning and Literacy* [M]. New York: Palgrave Macmillan.
- [7] Jiang Y., Chen Y., Lu J., Wang Y. (2021) The Effect of the Online and Offline Blended Teaching Mode on English as

- a Foreign Language Learners' Listening Performance in a Chinese Context[J]. *Frontiers in Psychology*, 12, 742742.
- [8] Mays B.R., Yeh H.C., Chen N.S. (2020) The Effects of Using Audience Response Systems Incorporating Student-Generated Questions on EFL Students' Reading Comprehension[J]. *The Asia-Pacific Education Researcher*, 29(3), 201–210.
- [9] Muqaibal M.H., Kasprowicz R. (2023) Evaluating the Impact of Spaced Practice Using Computer-Assisted Language Learning (CALL) on Vocabulary Learning in the Classroom[J]. *Language Teaching Research*, 27(4), 998–1024.
- [10] Papastergiou M. (2009) Digital Game-Based Learning in High School Computer Science Education: Impact on Educational Effectiveness and Student Motivation[J]. *Computers & Education*, 52(1), 1–12.
- [11] Ranieri M., Raffaghelli J.E., Bruni I. (2018) Game-Based Student Response System: Revisiting Its Potentials and Criticalities in Large-Size Classes[J]. *Active Learning in Higher Education*, 1(14).
- [12] Wang A.I. (2015) The Wear-Out Effect of a Game-Based Student Response System[J]. *Computers & Education*, 82, 217–227.